

REMARKS/ARGUMENTS

In the Office Action mailed September 4, 2008, claims 1-24 were rejected. In response, Applicants hereby request reconsideration of the application in view of the amendments and the below-provided remarks. No claims are added or canceled.

For reference, claims 1-9, 11, 14, 17, and 19-24 are amended. In particular, claim 1 is amended to clarify the language and formatting of the claim and to recite the external clock signal comprises a duty cycle that is different from the duty cycle of the internal clock signal. This amendment is supported, for example, by the subject matter described at page 4, lines 12-22, of the present application. Claim 2 is amended to clarify the use of the predetermined test pattern. This amendment is supported, for example, by the subject matter described at page 6, lines 16-28, of the present application. Claims 3 and 4 are each amended to employ proper antecedent basis for the duty cycle recited in the base claim 1. Claims 5-8 are amended to clarify the language of the claims as it relates to the base claim 1. Claim 9 is amended to correct grammar, clarify the language and formatting of the claim, and to recite the external clock signal comprises a duty cycle that is different from the duty cycle of the internal clock signal. This amendment is supported, for example, by the subject matter described at page 4, lines 12-22, of the present application. Claim 11 is amended to employ proper antecedent basis for the control signal and the test mode recited in the base claim 9. Claim 14 is amended to correct grammar. Claim 17 is amended to correct grammar, clarify the language and formatting of the claim, and to recite the external clock signal comprises a duty cycle that is different from the duty cycle of the internal clock signal. This amendment is supported, for example, by the subject matter described at page 4, lines 12-22, of the present application. Claims 19-23 are amended to clarify the language of the claims as it relates to the base claim 17. Claim 24 is amended to employ proper antecedent basis for the control signal and the test mode recited in the base claim 17.

Objections to the Specification

Applicants appreciate the Examiner's review of the specification. The Office Action suggests that section headings be added to the specification, according to the

guidelines set forth in the MPEP. Applicants note that the suggested section headings are recommended, but not mandatory. Hence, Applicants respectfully decline to amend the specification to include the indicated section headings. Accordingly, while Applicants appreciate the recommendation to include section headings, Applicants nevertheless respectfully request that this objection to the specification be withdrawn.

The Office Action also objects to the specification for failure to provide a background. However, the basis for this objection is not clear in the Office Action. If the basis for this rejection relies on the absence of a section heading to delineate a specific background section, then Applicants respectfully note that such section headings are not required, as addressed above. Alternatively, if there is another basis for this objection, then Applicants respectfully request that the Examiner provide additional information regarding the purported failure to provide a background, so that Applicants can more fully address the Examiner's concerns. It should be noted, however, that portions of the specification explicitly address prior art. In particular, at least portions of the illustration of Fig. 1 and the corresponding subject matter described in the specification are indicated as prior art. Therefore, at least portions of the specification address conventional technology. In light of these descriptions, Applicants respectfully request that this objection to the specification be withdrawn.

The specification is also objected to, apparently under 35 U.S.C. 112, first paragraph, for reciting the phrase "spirit and scope of the invention." In particular, the Office Action states that this phrase is purportedly not clear and concise in regard to the subject matter claimed. While the Office Action appears to rely on the written description requirement as the basis for this rejection, the Office Action fails to meet the burden to show how the written description requirement might be deficient. Moreover, the Office Action appears to infer requirements that are not actually mandated by the written description requirement of the statute. It should be noted that a description as filed is presumed to be adequate. MPEP 2163.04. In order to satisfy the burden on the Examiner with regard to the written description requirement, the Examiner must have a reasonable basis by presenting sufficient evidence to show how the written description is inadequate to support the language of the claims. Id. Specifically, the Examiner must set forth express findings of fact which support the conclusion that there is a lack of written

description. Id. Here, the Examiner appears to take issue with a particular phrase in the specification, without providing any reasoning or evidence to show how the indicated phrase might render the written description inadequate to support the language of the claims. Hence, the language of the objection does not satisfy the initial burden to present by a preponderance of evidence why a person skilled in the art would not recognize a description of the invention defined by the claims in the present application. Moreover, it should be noted that the indicated phrase is common terminology that has a plain and accepted meaning, and the indicated language does not negate the actual description provided in the specification to describe the embodiments of the invention. Therefore, in the absence of some showing by the Examiner how the indicated phrase might render the written description inadequate to support the scope of the claims, Applicants respectfully submit that the corresponding objection to the specification is improper. Accordingly, Applicants respectfully request that this objection to the specification be withdrawn.

Objections to the Claims

The Office Action states that claim 9 is object to because the phrase “the control circuit for receiving” lacks proper antecedent basis. Applicants appreciate the Examiner’s review of the language of the claims. Claim 9 is amended to remove the indicated language from the claim. Accordingly, Applicants respectfully request that the objection to claim 9 be withdrawn.

Claim Rejections under 35 U.S.C. 112

Claims 9 and 17 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, claim 9 was rejected for reciting the phrase “for providing an internal clock signal in dependence thereupon to the internal memory block.” Claim 17 was rejected for reciting a similar limitation. Claims 9 and 17 are amended to remove the phrase “in dependence thereupon” and to otherwise clarify the language of the claims. Accordingly, Applicants respectfully request that the rejections of claims 9 and 17 under 35 U.S.C. 112, second paragraph, be withdrawn.

Claim Rejections under 35 U.S.C. 102 and 103

Claims 1, 2, 4-13, 16-20, 23, and 24 were rejected under 35 U.S.C. 102(b) as being anticipated by Churchill et al. (U.S. Pat. No. 6,115,836, hereinafter Churchill). Additionally, claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Churchill. Additionally, claims 14, 15, 21, and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Churchill in view of Choi (U.S. Pat. No. 6,324,115, hereinafter Choi). However, Applicants respectfully submit that these claims are patentable over Churchill and Choi for the reasons provided below.

Independent Claim 1

Claim 1 recites “receiving an external clock signal, wherein the external clock signal comprises a duty cycle that is different from a duty cycle of the internal clock signal” (emphasis added).

In contrast Churchill does not disclose an external clock signal with a duty cycle that is different from a duty cycle of an internal clock signal. Churchill generally relates to test mode features for synchronous and pipelined memories. Churchill, col. 1, lines 23-26. More specifically, Churchill describes a programmable scan interface (see 212 of Fig. 2) which provides a mechanism for programmably altering various signals within static random access memory (SRAM) to improve the observability and characterization of circuitry within the SRAM. Churchill, col. 2, lines 49-52. One of the ways to alter signals within the SRAM includes a test mode that causes internal signals of the device under test to be replaced with external signals. Churchill, col. 3, line 66, through col. 4, line 2. As an example, the test mode may enable the replacement of an internally generated clock pulse signal with an external clock signal. Churchill, col. 4, lines 2-4. The external clock signal can be sent to a memory word line to stress the memory cells in a memory core. Churchill, col. 4, lines 4-9; col. 18, line 51, through col. 19, line 10; also see the line 222 which connects the clock pulse generator 210 to the input register 216 and the output register 218 of Fig. 2.

Churchill also states that the external clock signal can have a pulse width that is longer than the internal clock signal. Churchill, col. 4, lines 6-9. Although Churchill does not clearly describe how the pulse width of the signal generated by the clock pulse

generator, based on the external clock signal, is controlled, Churchill explicitly states that the external clock signal has a characteristic frequency that is preferably different (e.g., lower) than the frequency of the internal clock signal. Churchill, col. 5, lines 18-24; col. 7, lines 12-14 (“The external clock signal (CLK) may have a different characteristic frequency than [the internal clock signal] CCPULSE on line 222.”). Churchill does not describe another method of changing the pulse width of the signal generated by the clock pulse generator based on the external clock signal. Thus, Churchill merely describes changing the pulse width by using an external clock signal with a different characteristic frequency.

The descriptions of changing a pulse width, generally, or based on a different characteristic frequency of an external clock signal are insufficient to disclose an external clock signal which has a duty cycle that is different from a duty cycle of the internal clock signal. While the duty cycle of a signal may have some bearing on the pulse width of the signal, the description of changing a pulse width does not necessarily require or imply a corresponding change in the duty cycle, or the time that the pulse is active as a percentage of the total period of the signal. Further, two signals with different pulse widths may have the same duty cycle, in particular where the two signals have different frequencies. For example, a signal with a frequency that is double the frequency of another signal will have about half the pulse width of the other signal if both signals have the same duty cycle. Thus, the pulse widths are different, even though the signals have the same duty cycle, because the frequencies of the signals are different. Thus, the technique of using different frequencies to implement different pulse widths, as described in Churchill, does not necessarily have any bearing on the respective duty cycles of the signals. It should also be noted that using different duty cycles may or may not produce different pulse widths, depending on the frequencies of the signals. Nevertheless, the description in Churchill of using different characteristic frequencies to produce signals with different pulse widths is insufficient to disclose using an external clock signal with a duty cycle that is different from the duty cycle of the internal clock signal because Churchill simply does not address whether or not different duty cycles may be used.

For the reasons presented above, Churchill does not disclose all of the limitations of the claim because Churchill does not disclose an external clock signal with a duty

cycle that is different from a duty cycle of the internal clock signal, as recited in the claim. Accordingly, Applicants respectfully assert claim 1 is patentable over Churchill because Churchill does not disclose all of the limitations of the claim.

Independent Claim 9

Applicants respectfully assert independent claim 9 is patentable over Churchill at least for similar reasons to those stated above in regard to the rejection of independent claim 1. In particular, claim 9 recites “wherein the external clock signal comprises a duty cycle that is different from a duty cycle of the internal clock signal” (emphasis added).

Here, although the language of claim 9 differs from the language of claim 1, and the scope of claim 9 should be interpreted independently of claim 1, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 9. Accordingly, Applicants respectfully assert claim 9 is patentable over Churchill because Churchill does not disclose an external clock signal with a duty cycle that is different from a duty cycle of the internal clock signal.

Independent Claim 17

Applicants respectfully assert independent claim 17 is patentable over Churchill at least for similar reasons to those stated above in regard to the rejection of independent claim 1. In particular, claim 17 recites “wherein the external clock signal comprises a duty cycle that is different from a duty cycle of the internal clock signal” (emphasis added).

Here, although the language of claim 17 differs from the language of claim 1, and the scope of claim 17 should be interpreted independently of claim 1, Applicants respectfully assert that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 17. Accordingly, Applicants respectfully assert claim 17 is patentable over Churchill because Churchill does not disclose an external clock signal with a duty cycle that is different from a duty cycle of the internal clock signal.

Dependent Claims

Claims 2-8, 10-16, and 18-24 depend from and incorporate all of the limitations of the corresponding independent claims 1, 9, and 17. Applicants respectfully assert claims 2-8, 10-16, and 18-24 are allowable based on allowable base claims. Additionally, each of claims 2-8, 10-16, and 18-24 may be allowable for further reasons, as described below.

In regard to claims 3, 14, 15, 21, and 22, Applicants respectfully submit that the Office Action fails to establish *prima facie* rejections for these claims. In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been obvious. MPEP 2142 (citing KSR International Co. v. Teleflex Inc., 550 U.S. ___ (2007)). The analysis must be made explicit. *Id.* Additionally, rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* Here, the Office Action fails to explain why the limitations of the indicated claims would have been obvious because the Office Action relies on mere conclusory statements without provided some articulated reasoning with a rational underpinning. In particular, the Office Action merely concludes that certain limitations are “well known,” but the Office Action does not provide any evidence or other support to explain how each of the indicated limitations might be well known. Additionally, the Office Action merely concludes that the proposed modifications and combinations would have yielded predictable results, but the Office Action does not attempt to specify what the obtained results might be. Also, the Office Action does not attempt to explain why such results might be predictable. Overall, the Office Action merely provides general statements to draw unsupported conclusions as to the knowledge of one skilled in the art and the predictability of some undescribed results that might be obtained from certain modifications and combinations. This failure to provide specific evidence of the asserted well-known nature of the limitations or to provide some evidence or explanation of the potential results and the corresponding predictability of such results fails to satisfy the requirements set forth in the MPEP because the Office Action does not provide

articulated reasoning with some rational underpinning to support the asserted conclusions. Hence, the assertions in the Office Action are mere conclusory statements. Therefore, the Office Action fails to establish a *prima facie* rejection of the indicated claims because the Office Action relies on mere conclusory statements. Accordingly, Applicants respectfully request that the rejections of claims 3, 14, 15, 21, and 22 under 35 U.S.C. 103(a) be withdrawn because the Office Action fails to establish *prima facie* rejections of the claims.

CONCLUSION

Applicants respectfully request reconsideration of the claims in view of the amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-3444** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-3444** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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